

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

NEW APPLICATION TRANSMITTAL

Transmitted herewith for filing is the patent application of

Inventor(s): Petri HAAVISTO
Kari LAURILA
Markku MAJANIEMI

WARNING: Patent must be applied for in the name(s) of all of the actual inventor(s). 37 CFR 1.41(a) and 1.53(b).

For (title): VOICE-CONTROLLED TELECOMMUNICATION TERMINAL

CERTIFICATION UNDER 37 CFR 1.10

I hereby certify that this New Application Transmittal and the documents referred to as enclosed therein are being deposited with the United States Postal Service on this date August 26, 1997 in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number EM029039201US, addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231.

Kathleen Krochko

(type or print name of person mailing paper)

Kathleen Krochko

Signature of person mailing paper

NOTE: Each paper or fee referred to as enclosed herein has the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 CFR 1.10(b).

WARNING: Certificate of mailing (first class) or facsimile transmission procedures of 37 CFR 1.3 cannot be used to obtain a date of mailing or transmission for this correspondence.

jc530 U.S. PTO
08/26/97

RECEIVED

1. Type of Application

This new application is for a(n)

(check one applicable item below)

- ☒ Original (nonprovisional)
☐ Design
☐ Plant

WARNING: Do not use this transmittal for a completion in the U.S. of an International Application under 35 U.S.C. 371(c)(4), unless the International Application is being filed as a divisional, continuation or continuation-in-part application.

WARNING: Do not use this transmittal for the filing of a provisional application.

NOTE: If one of the following 3 items apply, then complete and attach **ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF A PRIOR U.S. APPLICATION CLAIMED** and a **NOTIFICATION IN PARENT APPLICATION OF THE FILING OF THIS CONTINUATION APPLICATION**.

- ☐ Divisional.
☐ Continuation.
☐ Continuation-in-part (C-I-P).

2. Benefit of Prior U.S. Application(s) (35 U.S.C. 119(a), 120, or 121)

NOTE: If the new application being transmitted is a divisional, continuation or a continuation-in-part of a parent case, or where the parent case is an International Application which designated the U.S., or benefit of a prior provisional application is claimed, then check the following item and complete and attach **ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED**.

WARNING: If an application claims the benefit of the filing date of an earlier filed application under 35 U.S.C. 120, 121 or 365(c), the 20-year term of that application will be based upon the filing date of the earliest U.S. application that the application makes reference to under 35 U.S.C. 120, 121 or 365(c). (35 U.S.C. 154(a)(2) does not take into account, for the determination of the patent term, any application on which priority is claimed under 35 U.S.C. 119, 365(a) or 365(b).) For a c-i-p application, applicant should review whether any claim in the patent that will issue is supported by an earlier application and, if not, the applicant should consider canceling the reference to the earlier filed application. The term of a patent is not based on a claim-by-claim approach. See Notice of April 14, 1995, 60 Fed. Reg. 20,195, at 20,205.

WARNING: When the last day of pendency of a provisional application falls on a Saturday, Sunday, or Federal holiday within the District of Columbia, any nonprovisional application claiming benefit of the provisional application must be filed prior to the Saturday, Sunday, or Federal holiday within the District of Columbia. See 37 C.F.R. § 1.78(a)(3).

- ☐ The new application being transmitted claims the benefit of prior U.S. application(s). Enclosed are **ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED**.

3. Papers Enclosed That Are Required for Filing Date under 37 C.F.R. 1.53(b) (Regular) or 37 C.F.R. 1.153 (Design) Application

- 12 Pages of specification
3 Pages of claims
1 Pages of Abstract
3 Sheets of drawing
☒ formal
☐ informal

WARNING: DO NOT submit original drawings. A high quality copy of the drawings should be supplied when filing a patent application. The drawings that are submitted to the Office must be on strong, white, smooth, and non-shiny paper and meet the standards according to § 1.84. If corrections to the drawings are necessary, they should be made to the original drawing and a high-quality copy of the corrected original drawing then submitted to the Office. Only one copy is required or desired. Comments on proposed new 37 CFR 1.84. Notice of March 9, 1988 (1990 O.G. 57-62).

NOTE: "Identifying indicia, if provided, should include the application number or the title of the invention, inventor's name, docket number (if any), and the name and telephone number of a person to call if the Office is unable to match the drawings to the proper application. This information should be placed on the back of each sheet of drawing a minimum distance of 1.5 cm. (5/8 inch) down from the top of the page." 37 C.F.R. 1.84(c).

(complete the following, if applicable)

- ☐ The enclosed drawing(s) are photograph(s), and there is also attached a "PETITION TO ACCEPT PHOTOGRAPH(S) AS DRAWING(S)." 37 C.F.R. 1.84(b).

4. Additional papers enclosed

- ☒ Preliminary Amendment
☒ Information Disclosure Statement (37 C.F.R. 1.98)
☒ Form PTO-1449 (PTO/SB/08A and 08B)
☒ Citations
☐ Declaration of Biological Deposit
☐ Submission of "Sequence Listing," computer readable copy and/or amendment pertaining thereto for biotechnology invention containing nucleotide and/or amino acid sequence.
☐ Authorization of Attorney(s) to Accept and Follow Instructions from Representative
☐ Special Comments
☐ Other

5. Declaration or oath

- ☒ Enclosed
Executed by

(check all applicable boxes)

- ☒ inventor(s).
☐ legal representative of inventor(s).
37 CFR 1.42 or 1.43.
☐ joint inventor or person showing a proprietary interest on behalf of inventor who refused to sign or cannot be reached.
☐ This is the petition required by 37 CFR 1.47 and the statement required by 37 CFR 1.47 is also attached. See item 13 below for fee.
☐ Not Enclosed.

WARNING: Where the filing is a completion in the U.S. of an International Application, but where a declaration is not available, or where the completion of the U.S. application contains subject matter in addition to the International Application, the application may be treated as a continuation or continuation-in-part, as the case may be, utilizing ADDED PAGE FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION CLAIMED.

- ☒ Application is made by a person authorized under 37 C.F.R. 1.41(c) on behalf of all the above named inventor(s).

(The declaration or oath, along with the surcharge required by 37 CFR 1.16(e) can be filed subsequently).

NOTE: It is important that all the correct inventor(s) are named for filing under 37 CFR 1.41(c) and 1.53(b).

- ☐ Showing that the filing is authorized.
(not required unless called into question. 37 CFR 1.41(d))

6. Inventorship Statement

WARNING: If the named inventors are each not the inventors of all the claims an explanation, including the ownership of the various claims at the time the last claimed invention was made, should be submitted.

The inventorship for all the claims in this application are:

- ☐ The same.

or

- ☐ Not the same. An explanation, including the ownership of the various claims at the time the last claimed invention was made,
☐ is submitted.
☐ will be submitted.

7. Language

NOTE: An application including a signed oath or declaration may be filed in a language other than English. A verified English translation of the non-English language application and the processing fee of \$130.00 required by 37 CFR 1.17(k) is required to be filed with the application, or within such time as may be set by the Office. 37 CFR 1.52(c).

NOTE: A non-English oath or declaration in the form provided or approved by the PTO need not be translated. 37 CFR 1.69(b).

- ☒ English
☐ Non-English
☐ The attached translation is a verified translation. 37 C.F.R. 1.52(d).

8. Assignment

- ☒ An assignment of the invention to Nokia Mobile Phones Ltd.

- ☒ is attached. A separate ☒ "COVER SHEET FOR ASSIGNMENT (DOCUMENT) ACCOMPANYING NEW PATENT APPLICATION" or ☐ FORM PTO 1595 is also attached.

- ☐ will follow.

NOTE: "If an assignment is submitted with a new application, send two separate letters-one for the application and one for the assignment." Notice of May 4, 1990 (1114 O.G. 77-78).

WARNING: A newly executed "CERTIFICATE UNDER 37 CFR 3.73(b)" must be filed when a continuation-in-part application is filed by an assignee. Notice of April 30, 1993, 1150 O.G. 62-64.

9. Certified Copy

Certified copy(ies) of application(s)

Country	Appin. no.	Filed
Finland	963417	2 September 1996
Country	Appin. no.	Filed
Country	Appin. no.	Filed

from which priority is claimed

☒ is (are) attached.

☐ will follow.

NOTE: The foreign application forming the basis for the claim for priority must be referred to in the oath or declaration. 37 CFR 1.55(a) and 1.63.

NOTE: This item is for any foreign priority for which the application being filed directly relates. If any parent U.S. application or International Application from which this application claims benefit under 35 U.S.C. 120 is itself entitled to priority from a prior foreign application, then complete item 18 on the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

10. Fee Calculation (37 C.F.R. 1.16)

A. ☒ Regular application

CLAIMS AS FILED			
Number filed	Number Extra	Rate	Basic Fee 37 C.F.R. 1.16(a) \$770.00
Total			
Claims (37 CFR 1.16(c)) 12 - 20 =	0	×	\$ 22.00
Independent			
Claims (37 CFR 1.16(b)) 4 - 3 =	1	×	\$ 80.00 80.00
Multiple dependent claim(s), if any (37 CFR 1.16(d))		+	\$260.00

☐ Amendment cancelling extra claims is enclosed.

☒ Amendment deleting multiple-dependencies is enclosed.

☐ Fee for extra claims is not being paid at this time.

NOTE: If the fees for extra claims are not paid on filing they must be paid or the claims cancelled by amendment, prior to the expiration of the time period set for response by the Patent and Trademark Office in any notice of fee deficiency. 37 CFR 1.16(d).

Filing Fee Calculation

\$ 850.00

- B. ☐ Design application
(§320.00—37 CFR 1.16(f))

Filing Fee Calculation

\$ _____

- C. ☐ Plant application
(§530.00—37 CFR 1.16(g))

Filing fee calculation

\$ _____

11. Small Entity Statement(s)

- ☐ Verified Statement(s) that this is a filing by a small entity under 37 CFR 1.9 and 1.27 is (are) attached.

WARNING: "Status as a small entity in one application or patent does not affect any other application or patent, including applications or patents which are directly or indirectly dependent upon the application or patent in which the status has been established. A nonprovisional application claiming benefit under 35 U.S.C. 119(a), 120, 121 or 365(c) of a prior application may rely on a verified statement filed in the prior application if the nonprovisional application includes a reference to a verified statement in the prior application or includes a copy of the verified statement filed in the prior application if status as a small entity is still proper and desired." 37 C.F.R. § 1.28(a).

(complete the following, if applicable)

- ☐ Status as a small entity was claimed in prior application

_____ / _____, filed on _____, from which benefit is being claimed for this application under:

- 35 U.S.C. ☐ 119(e),
☐ 120,
☐ 121,
☐ 365(c),

and which status as a small entity is still proper and desired.

- ☐ A copy of the verified statement in the prior application is included.

Filing Fee Calculation (50% of A, B or C above)

\$ _____

NOTE: Any excess of the full fee paid will be refunded if a verified statement and a refund request are filed within 2 months of the date of timely payment of a full fee. The two-month period is not extendable under § 1.136, 37 CFR 1.28(a).

12. Request for International-Type Search (37 C.F.R. 1.104(c))

(complete, if applicable)

- ☐ Please prepare an international-type search report for this application at the time when national examination on the merits takes place.

13. Fee Payment Being Made at This Time

☐ Not Enclosed

☐ No filing fee is to be paid at this time.

(This and the surcharge required by 37 C.F.R. 1.16(e) can be paid subsequently.)

☒ Enclosed

☒ Basic filing fee

\$ 850.00

☒ Recording assignment

(\$40.00; 37 C.F.R. 1.21(h))

(See attached "COVER SHEET FOR ASSIGNMENT ACCOMPANYING NEW APPLICATION".)

\$ 40.00

☐ Petition fee for filing by other than all the inventors or person on behalf of the inventor where inventor refused to sign or cannot be reached

(\$130.00; 37 C.F.R. 1.47 and 1.17(h))

\$

☐ For processing an application with a specification in

a non-English language

(\$130.00; 37 C.F.R. 1.52(d) and 1.17(k))

\$

☐ Processing and retention fee

(\$130.00; 37 C.F.R. 1.53(d) and 1.21(l))

\$

☐ Fee for international-type search report

(\$40.00; 37 C.F.R. 1.21(e))

\$

NOTE: 37 CFR 1.21(f) establishes a fee for processing and retaining any application that is abandoned for failing to complete the application pursuant to 37 CFR 1.53(d) and this, as well as the changes to 37 CFR 1.53 and 1.78, indicate that in order to obtain the benefit of a prior U.S. application, either the basic filing fee must be paid, or the processing and retention fee of § 1.21(f) must be paid, within 1 year from notification under § 53(d).

Total fees enclosed

\$ 890.00

14. Method of Payment of Fees

☒ Check in the amount of \$ 890.00

☐ Charge Account No. _____ in the amount of \$ _____

A duplicate of this transmittal is attached.

NOTE: Fees should be itemized in such a manner that it is clear for which purpose the fees are paid. 37 CFR 1.22(b).

15. Authorization to Charge Additional Fees

WARNING: If no fees are to be paid on filing, the following items should not be completed.

WARNING: Accurately count claims, especially multiple dependent claims, to avoid unexpected high charges, if extra claim charges are authorized.

- ☒ The Commissioner is hereby authorized to charge the following additional fees by this paper and during the entire pendency of this application to Account No. 16-1350.

☒ 37 C.F.R. 1.16(a), (f) or (g) (filing fees)

☒ 37 C.F.R. 1.16(b), (c) and (d) (presentation of extra claims)

NOTE: Because additional fees for excess or multiple dependent claims not paid on filing or on later presentation must only be paid or these claims cancelled by amendment prior to the expiration of the time period set for response by the PTO in any notice of fee deficiency (37 CFR 1.16(d)), it might be best not to authorize the PTO to charge additional claim fees, except possibly when dealing with amendments after final action.

☒ 37 C.F.R. 1.16(e) (surcharge for filing the basic filing fee and/or declaration on a date later than the filing date of the application)

☒ 37 C.F.R. 1.17 (application processing fees)

WARNING: While 37 CFR 1.17(a), (b), (c) and (d) deal with extensions of time under § 1.136(a), this authorization should be made only with the knowledge that: "Submission of the appropriate extension fee under 37 C.F.R. 1.136(a) is to no avail unless a request or petition for extension is filed." (Emphasis added). Notices of November 5, 1985 (1060 O.G. 27).

☐ 37 C.F.R. 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 C.F.R. 1.311(b))

NOTE: Where an authorization to charge the issue fee to a deposit account has been filed before the mailing of a Notice of Allowance, the issue fee will be automatically charged to the deposit account at the time of mailing the notice of allowance. 37 CFR 1.311(b).

NOTE: 37 CFR 1.28(b) requires "Notification of any change in loss of entitlement to small entity status must be filed in the application . . . prior to paying, or at the time of paying, . . . issue fee." From the wording of 37 CFR 1.28(b): (a) notification of change of status must be made even if the fee is paid as "other than a small entity" and (b) no notification is required if the change is to another small entity.

16. Instructions as to Overpayment

☒ Credit Account No. 16-1350

☐ Refund

Reg. No. 24,622

Tel. No. (203) 259-1800


SIGNATURE OF ATTORNEY

Clarence A. Green

(type or print name of attorney)

Perman & Green, LLP

P.O. Address

425 Post Road, Fairfield, CT 06432

☐ Incorporation by reference of added pages

(check the following item if the application in this transmittal claims the benefit of prior U.S. application(s) (including an international application entering the U.S. stage as a continuation, divisional or C-I-P application) and complete and attach the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED)

- ☐ Plus Added Pages for New Application Transmittal Where Benefit of Prior U.S. Application(s) Claimed

Number of pages added _____

- ☐ Plus Added Pages for Papers Referred to in Item 4 Above

Number of pages added _____

- ☐ Plus "Assignment Cover Letter Accompanying New Application"

Number of pages added _____

☒ Statement Where No Further Pages Added

(if no further pages form a part of this Transmittal, then end this Transmittal with this page and check the following item)

- ☒ This transmittal ends with this page.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Express Mail No. EM029039201US

In re Application of: Haavisto et al.

SERIAL NUMBER:

EXAMINER:

FILING DATE: Herewith

ART UNIT:

TITLE: VOICE-CONTROLLED TELECOMMUNICATION TERMINAL

ATTORNEY DOCKET NO.: 460-007352-US(PAR)

The Commissioner of Patents and Trademarks

Washington, D.C. 20231

PRELIMINARY AMENDMENT

Dear Sir:

Please amend the above-identified, enclosed patent application as follows:

IN THE CLAIMS:

Please amend Claims 3, 6, 7, 8, 9, 10, 11 and 12 as shown below.

Claim 3, line 1, delete "claims 1 or 2" and insert -- claim 1 --.

Claim 6, line 1, delete "claims 4 or 5" and insert -- claim 4 --.

Claim 7, line 1, delete "claims 4 or 5" and insert -- claim 4 --.

8. (Amended) A voice controlled device (2) as set forth in [any of claims 4 to 7] claim 4 characterized in that the voice controlled device (2) is formed to constitute a part of the telecommunication terminal (1).

9. (Amended) A voice controlled device (2) as set forth in [any of claims 4 to 7] claim 4 **characterized** in that the voice controlled device (2) is formed to constitute a separate device.

10. (Amended) A voice controlled device (2) as set forth in [any of claims 4 to 7 or 9] claim 4 **characterized** in that the voice controlled device (2) is arranged to be used in connection with the telecommunication terminal (1).

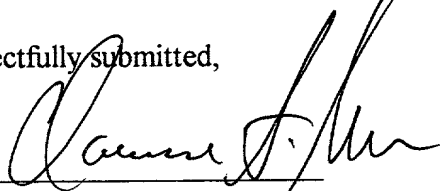
11. (Amended) A voice controlled device (2) as set forth in [any of claims 4 to 7] claim 4 intended to be used in call formation in a telecommunication network, such as mobile communication network, **characterized** in that the voice controlled device (2) is located in the telecommunication network.

12. (Amended) A voice controlled device (2) as set forth in [any of the claims 4 to 11] claim 4 **characterized** in that the telecommunication terminal (1) is a mobile station, such as a GSM mobile-station.

REMARKS

Prior to calculation of the fees, please enter this preliminary amendment.

Respectfully submitted,



Clarence A. Green, Reg. No. 24,622
PERMAN & GREEN, LLP
425 Post Road
Fairfield, CT 06430
(203) 259-1800

8-26-97

Date

COMBINED DECLARATION AND POWER OF ATTORNEY

(ORIGINAL, DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL, DIVISIONAL,
CONTINUATION OR C-I-P)

As a below named inventor, I hereby declare that:

TYPE OF DECLARATION

This declaration is of the following type:

(check one applicable item below)

- ☒ original.
- ☐ design.
- ☐ supplemental.

NOTE: *If the declaration is for an International Application being filed as a divisional, continuation or continuation-in-part application, do not check next item; check appropriate one of last three items.*

- ☐ national stage of PCT.

NOTE: *If one of the following 3 items apply, then complete and also attach ADDED PAGES FOR DIVISIONAL, CONTINUATION OR C-I-P.*

- ☐ divisional.
- ☐ continuation.
- ☐ continuation-in-part (C-I-P).

INVENTORSHIP IDENTIFICATION

WARNING: *If the inventors are each not the inventors of all the claims, an explanation of the facts, including the ownership of all the claims at the time the last claimed invention was made, should be submitted.*

My residence, post office address and citizenship are as stated below, next to my name.
I believe that I am the original, first and sole inventor (*if only one name is listed below*) or
an original, first and joint inventor (*if plural names are listed below*) of the subject matter
that is claimed, and for which a patent is sought on the invention entitled:

TITLE OF INVENTION

VOICE-CONTROLLED TELECOMMUNICATION TERMINAL

SPECIFICATION IDENTIFICATION

the specification of which:

(complete (a), (b) or (c))

- (a) ☒ is attached hereto.
(b) ☐ was filed on _____, as ☐ Serial No. 0 / _____
or ☐ Express Mail No., as Serial No. not yet known _____
and was amended on _____ (if applicable).

NOTE: Amendments filed after the original papers are deposited with the PTO that contain new matter are not accorded a filing date by being referred to in the declaration. Accordingly, the amendments involved are those filed with the application papers or, in the case of a supplemental declaration, are those amendments claiming matter not encompassed in the original statement of invention or claims. See 37 CFR 1.67.

- (c) ☐ was described and claimed in PCT International Application No. _____, filed on _____ and as amended under PCT Article 19 on _____ (if any).

ACKNOWLEDGEMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in 37, Code of Federal Regulations, § 1.56,

(also check the following items, if desired)

- ☒ and which is material to the examination of this application, namely, information where there is a substantial likelihood that a reasonable Examiner would consider it important in deciding whether to allow the application to issue as a patent, and
☐ in compliance with this duty, there is attached an information disclosure statement, in accordance with 37 CFR 1.98.

PRIORITY CLAIM (35 U.S.C. § 119(a)-(d))

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

(complete (d) or (e))

- (d) ☐ no such applications have been filed.
(e) ☒ such applications have been filed as follows.

NOTE: Where item (c) is entered above and the International Application which designated the U.S. itself claimed priority check item (e), enter the details below and make the priority claim.

CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)
(34 U.S.C. § 119(e))

PROVISIONAL APPLICATION NUMBER

_____/

_____/

_____/

☐ The claim for the benefit of any such applications are set forth in the attached ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR CONTINUATION-IN-PART (C-I-P) APPLICATION.

(Declaration and Power of Attorney [1-1]—page 3 of 6)

**ALL FOREIGN APPLICATION(S), IF ANY, FILED MORE THAN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION**

NOTE: If the application filed more than 12 months from the filing date of this application is a PCT filing forming the basis for this application entering the United States as (1) the national stage, or (2) a continuation, divisional, or continuation-in-part, then also complete ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR C-I-P APPLICATION for benefit of the prior U.S. or PCT application(s) under 35 U.S.C. § 120.

POWER OF ATTORNEY

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

(list name and registration number)

Clarence A. Green	(24,622)
Harry F. Smith	(32,493)
Mark F Harrington	(31,686)

(check the following item, if applicable)

- ☐ Attached, as part of this declaration and power of attorney, is the authorization of the above-named attorney(s) to accept and follow instructions from my representative(s).

SEND CORRESPONDENCE TO

Clarence A. Green
Perman & Green
425 Post Road
Fairfield, Ct 06430

DIRECT TELEPHONE CALLS TO:
(Name and telephone number)

Clarence A. Green
203-259-1800

DECLARATION

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

SIGNATURE(S)

NOTE: Carefully indicate the family (or last) name, as it should appear on the filing receipt and all other documents.

Full name of sole or first inventor

Petri (GIVEN NAME) (MIDDLE INITIAL OR NAME) HAAVISTO (FAMILY (OR LAST) NAME)

Inventor's signature

Date 15 July 1997 Country of Citizenship Finland

Residence Helakallionkatu 47, FIN-33580 Tampere, Finland

Post Office Address Helakallionkatu 47, FIN-33580 Tampere, Finland

Full name of second joint inventor, if any

Kari (GIVEN NAME) (MIDDLE INITIAL OR NAME) LAURILA (FAMILY (OR LAST) NAME)

Inventor's signature

Date 15 July 1997 Country of Citizenship Finland

Residence Insinöörinkatu 64 A 14, FIN-33720 Tampere, Finland

Post Office Address Insinöörinkatu 64 A 14, FIN-33720 Tampere, Finland

Full name of third joint inventor, if any

Markku (GIVEN NAME) (MIDDLE INITIAL OR NAME) MAJANIEMI (FAMILY (OR LAST) NAME)

Inventor's signature

Date 15 July 1997 Country of Citizenship Finland

Residence Turjankatu 6-8 A 13, FIN-33100 Tampere, Finland

Post Office Address Turjankatu 6-8 A 13, FIN-33100 Tampere, Finland

(check proper box(es) for any of the following added page(s)
that form a part of this declaration)

- ☐ **Signature** for fourth and subsequent joint inventors. *Number of pages added* _____

* * *

- ☐ **Signature** by administrator(trix), executor(trix) or legal representative for deceased or incapacitated inventor. *Number of pages added* _____

* * *

- ☐ **Signature** for inventor who refuses to sign or cannot be reached by person authorized under 37 CFR 1.47. *Number of pages added* _____

* * *

- ☐ Added page for **signature** by one joint inventor on behalf of deceased inventor(s) where legal representative cannot be appointed in time. (37 CFR 1.47)

* * *

- ☐ Added pages to combined declaration and power of attorney for divisional, continuation, or continuation-in-part (C-I-P) application.

☐ Number of pages added _____

* * *

- ☐ Authorization of attorney(s) to accept and follow instructions from representative.

* * *

(if no further pages form a part of this Declaration,
then end this Declaration with this page and check the following item)

☒ This declaration ends with this page.

Voice-controlled telecommunication terminal

The present invention relates to a method for controlling a telecommu-
nication terminal by means of voice, as presented in the preamble of
5 the claim 1, and a voice-controlled telecommunication terminal accord-
ing to the method.

When a mobile phone is used in a car, a hands-free mode is often
required, wherein the car has a hands-free equipment for the mobile
10 phone, comprising a separate loudspeaker and a microphone. Thus,
the speaker can use both hands for driving during the call. The advan-
tages of the hands-free mode are comfort in use and improved safety.
To increase comfort in use, the hands-free mode is used also in offices
as a desktop hands-free installation.

15 The convenience of hands-free mode is decreased by the fact that for
making a call the driver has to dial the telephone number by pressing
the keys of the phone. This impairs traffic safety, because the look of
the driver is attached to the phone. To facilitate the dialling of numbers,
20 shortcut functions have been designed to phones, wherein names and
numbers of persons have been stored into the memory of the phone.
The shortcut memory can be scrolled through, wherein it is advanta-
geous to show on the display device of the phone an identifier corre-
sponding to each telephone number, such as the name of the respec-
25 tive person. If needed, it is also possible to show the phone number
corresponding to the identifier. The memory can be scrolled forwards
and backwards, and when the desired identifier appears on the display
device, the dialling the phone number can be started, for example by
pressing a call key. However, the shortcut function does not entirely
30 eliminate the need to press the keys when calling.

Various methods based on voice recognition for telecommunication
terminals, such as mobile phones and wireline telephones, have been
developed, particularly for dialling a phone number without pressing the
35 keys. In such methods, the desired phone number can be dialled usu-
ally in a manner that the caller pronounces the phone number or an
identifier related to the phone number, such as the name of the person.

The phone number corresponding to the identifier has been stored advantageously to the shortcut memory.

5 Some known telecommunication terminals and methods based on voice recognition have been described in the patent publications US-4,644,107, US-4,853,953, US-4,928,302, US-5,182,765 and US-5,222,121.

10 Prior art control and calling methods of a telecommunication terminal using voice recognition are mainly based on the fact that a distinguishing voice pattern has been stored for each command and phone number. Thus, the command or identifier has to be given in a form as identical with the stored form as possible. Thus, the caller has to remember in which form e.g. the name "Matthew Herbert Williams" was stored;
15 was it stored exactly in this form, or in form "Matthew Williams", "Williams Matthew", or "Williams Matthew Herbert".

US-patent 5,222,121 discloses a voice-recognition dialling device arranged in connection with a telephone mounted on a vehicle or a like.
20 Into the memory of the dialling device, voice patterns corresponding to the commands and telephone numbers, such as words "RECALL MEMORY", "SEND" and "VERIFY", are stored. Voice patterns are preferably stored already when the dialling device is manufactured. The dialling unit can also be implemented in a manner that the user teaches the unit also the commands and numbers. The dialling device includes a loudspeaker and/or a display device, wherein the user is given instructions in form of voice signals and/or text. The call is initiated by pronouncing the command "RECALL MEMORY", wherein the dialling device requests the user to pronounce the identifier of the desired telephone number. After the identifier has been pronounced, the device
30 compares the identifiers stored into the memory and after finding an identifier that most resembles the pronounced identifier, it gives a voice signal. The user may then give the device a call command "SEND", or a command "VERIFY" if the user wishes to check that the number is correct. In this case, the dialling device informs the chosen identifier, for example in a sound signal. If the chosen identifier is correct, a connection is created by using a call command. If the chosen identifier is incorrect, the user can scroll through the other alternatives by using a
35

command "NEXT ONE". However, the identifiers have to be given in the same form as they have been stored, which increases the possibility of false choices.

- 5 US-patent 4,928,302 presents another dialling device for calling a desired telephone number by using voice commands. In this device, the telephone numbers can be classified for example according to the initial part of the name. The search can thus be implemented by pronouncing for example the surname "Williams", wherein the device searches all
10 the names having "Will" in their initial part, such as "Williams", "Williamson" and "Willis". In the next phase the desired name can be chosen from the list formed by the device, which is thus in this phase briefer than the list of all the names stored in the memory. Even this device has the disadvantage that the user has to remember the form
15 the name was stored, that is, "Williams Matthew", "Matthew Williams", "Williams Matthew Herbert" or "Matthew Herbert Williams",

- The purpose of the present invention is to eliminate the above mentioned disadvantages to a great extent and to provide a device and
20 method for controlling a telecommunication terminal by means of voice command, particularly for choosing a telephone number from a group of stored telephone numbers. The invention is based on the idea that the identifier can comprise more than one sub-identifier, i.e. word, wherein in the search phase the identifier can be dictated according to combination of any sub-identifiers. The method of the invention is characterized in what is said in the characterizing portion of the appended
25 claim 1. The voice-controlled unit of the invention is characterized in what is said in the characterizing portion of the appended claim 3.

- 30 The present invention provides significant advantages over prior art voice-control methods and voice-controlled devices.

- In the method according to the invention the identifier related to a telephone number can be composed of one or several sub-identifiers
35 stored into the memory of the device. However, it is not required in the calling phase to pronounce the sub-identifiers in the exact order as they were stored, but any combination or partial combination of sub-identifiers can be used. It is not even necessary to pronounce all the sub-

identifiers provided that the telephone number to be chosen is identified by the group of the pronounced sub-identifiers. In some cases the identifier can be identified by pronouncing just one sub-identifier.

- 5 A method in accordance with a second advantageous embodiment of the invention provides the option to pronounce sub-identifiers not present in the group of sub-identifiers stored in the memory, that is the word list, when the telephone number is chosen. The voice-recognition advantageously ignores these sub-identifiers and performs the selection based on sub-identifiers present in the word list.

In the following, the invention is described in more detail with reference to the accompanying drawing, where

- 15 Fig. 1 shows a reduced block diagram of one advantageous dialling device according to the invention,
- Fig. 2 shows a reduced flow chart of storing of an identifier into the memory of the device, and
- 20 Fig. 3 shows a reduced flow chart of a situation in which a telephone number is dialled in accordance with one advantageous embodiment of the invention.
- 25 A voice-controlled telecommunication terminal 1 according to an advantageous embodiment of the invention as shown in Fig. 1 is for example a mobile station, such as a GSM mobile phone, or a fixed wire-line telephone. Fig. 1 shows only those blocks which are the most essential for understanding the invention. A voice-control unit 2 comprises advantageously a voice-recognition means 3, a voice pattern memory 4, a controller unit 5, read-only memory 6, random access memory 7, speech synthesiser 8 and a interface 9. Voice control can be given e.g. by means of a microphone 10a of the telecommunication terminal 1 or by means of a microphone 10b of a hands-free equipment 17. The instructions and notices to the user can be given e.g. by means of sound signals created by a speech synthesiser 8 either through a loudspeaker 11a belonging to the telecommunication terminal 1 or through a loudspeaker 11b of the hands-free equipment. The voice-control

unit 2 of the invention can also be implemented without the voice-synthesiser 8, wherein instructions and notices are transmitted to the user preferably in text form on the display means 13 of the telecommunication terminal. Another option is to transmit instructions and notices to the user both as sound and as text messages.

In the following, the operation of the method and the telecommunication device 1 in accordance with the invention is described. Before the voice-control operates, the device has to be taught usually all the voice commands and identifiers to be used. It is preferable that the voice commands have been taught in the manufacturing phase of the device, wherein the user teaches only those identifiers he or she will need. This can be implemented e.g. by setting the voice-control unit 2 to a teach mode, for example by keying the voice-storing key A of the keyboard 15 of the telecommunication terminal 1, by keying the supplementary voice-storing key 12 or through the menu facility of the telecommunication terminal 1. The manner how the changing over to the teach mode of the voice commands is implemented depends e.g. on the telecommunication terminal 1 used and on the implementation of the voice control and is technology known by an expert in the field as such. Subsequently, the user pronounces the command taught at a time and advantageously by pressing the keys informs which command was pronounced. If required, the command is repeated several times to ensure reliable storing as to the voice recognition. According to the pronounced command, the voice-recognition means 3 forms an identifier, which is stored to the voice pattern memory 4. Prior art includes several alternative implementations for voice-recognition means 3 and voice-equivalent memory 4 and they are known by an expert in the field. Thus, a more detailed description of these implementations is unnecessary in this context; instead reference is made for example to the publications mentioned in connection with the description of prior art.

Also the numerals from zero to nine are advantageously stored into the voice-equivalent memory, wherein the user can store also the telephone number by pronouncing it, wherein the voice-control unit 2 transforms the pronounced telephone number preferably to signals corresponding to the numeral keys and stores the information on the telephone number to the telephone number memory, wherefrom it can be

collected when calling. The user can give the telephone number also by keying in the corresponding numerals. The teach mode of the voice commands is terminated advantageously by keying again the voice-store key A or through the menu function of the telecommunication terminal.

In the phase when the user wishes to store the identifier of the telephone number, the voice-control unit 2 is set to a mode in which the voice-control unit can expect to receive identifiers, which can be composed of one or several sub-identifiers. This function mode is described in the following with reference to the flow chart of Fig. 2. Changing over to the store-identifier mode (block 201) is implemented advantageously by keying the voice-store key A or through the menu facility, as presented earlier in connection with command storing. The voice-recognition unit 2 creates advantageously a message "Pronounce the identifier" (block 202), wherein the user starts pronouncing the sub-identifiers of the identifier. Thus, the identifier can comprise one or several sub-identifiers, for example "Williams", "Matthew", "Herbert". A short pause is kept between each sub-identifier, wherein the voice-recognition unit 2 is able to separate the sub-identifiers from each other. Each pronounced sub-identifier is stored into the voice-equivalent memory 4 (block 203). The voice-control unit 2 can additionally create a short sound signal (e.g. a bleep) after each pronounced sub-identifier as a sign that the sub-identifier is stored. Subsequently, after all the sub-identifiers have been pronounced (block 204), the user is requested to give the telephone number related to the identifier (block 205), e.g. by pronouncing the numbers or by keying. After the number has been given, the voice-control unit 2 stores the telephone number e.g. to the random access memory 7 (block 206) and creates references of the sub-identifiers to the telephone number (block 207). Subsequently, the user is asked whether any other identifiers and telephone numbers are to be stored (blocks 209, 210). In case the user wishes to continue the storing, the function moves back to the block 202 until identifiers are no longer given (block 211).

Division into sub-identifiers can also be implemented in a manner that the user divides the identifier into sub-identifiers and separates the sub-identifiers e.g. by pressing a key.

In the calling phase the voice-control unit 2 has to be set to a choose-name mode, e.g. by a voice command "phone call" or by using the keys of the telecommunication terminal 1. When mounted on a car, it is also possible to bring a supplementary control option, external from the telecommunication terminal 1, e.g. close to the steering wheel of the car, wherein the activation of the choose-name mode is easy to implement, e.g. by an activation switch 14. In the following, the voice-controlled dialling of telephone number in accordance with a preferred embodiment of the invention is described with reference to the flow chart of Fig. 3.

After the voice-control unit 2 has recognised the given command as the activation command of the choose-name mode, the voice-control unit 2 moves to a choose-telephone-number mode (block 301). The voice-control unit 2 creates advantageously a sound signal to the loudspeaker 11 and/or a text message on a display means 13, which signal or message informs the user to pronounce the identifier (block 302). The user can pronounce the sub-identifiers of the identifier in any order, preferably by keeping a short pause between sub-identifiers to separate the sub-identifiers from each other. The voice-control unit 2 calculates the probability between the first stored identifier and the pronounced identifier (block 303). Subsequently, it is examined whether any other identifiers are stored into the memory (block 304). In case there remains any non-examined identifiers, probability is created for the next identifier (block 305). When probability has been created for every stored identifier, the highest calculated probability is searched. In case the probability calculated to one stored identifier is distinctively higher than that calculated to the rest of the identifiers, it can be assumed that the said identifier is the correct one (block 306), wherein choose-telephone-number mode can be started (block 307). In case the identifying of the identifier did not succeed, it is possible e.g. to move back to the block 302 and ask the user to repeat the identifier until the selection can be identified.

A complete identification is not always reached, wherein the voice-control unit 2 can inform the user and to ask the user to pronounce the identifier again, e.g. by moving back to block 302 in the flow chart of

Fig. 3. The voice control unit 2 can also create e.g. a sound signal of those identifiers that according to the comparison made by the voice-recognition means 3 most resemble the pronounced identifier, wherein the user can select the correct identifier. In case none of the proposed

5 identifiers is correct, the user can repeat the identifier. Even if the voice-control unit 2 could recognize the given identifier, it is preferable to verify from the user that the selected identifier is correct. This can be performed for example in a manner that the user gives a dial command if the identifier is correct, or a re-recognition command if the identifier is

10 incorrect. The verifying can be advantageously performed also by an activation switch key 14. Yet another alternative for verifying is that the telecommunication terminal 1 will wait a predetermined time for the command of the user, and in case no command is coming, it presumes the selected telephone number to be correct and starts the dialling.

15 The telephone number is dialled according to the information stored to the telephone number memory in a manner known as such. The used memory can be memory of the telecommunication terminal 1 (not shown) or the random access memory 7 of the voice-control unit 2.

20 Also non-volatile random access memory (NVRAM) can be partially used as the random access memory 7 of the voice-control unit 2, wherein the information stored in the memory is preserved also without operating voltage.

25 The method according to the invention can be implemented e.g. in a manner that in the storing phase a separate model is formed of each pronounced identifier. In the following, it is assumed that N number of names, that is sub-identifiers: n_1, n_2, \dots, n_N , is related to the telephone number. For the recognition phase, a model structure is formed to the

30 telephone number, the structure including every possible sub-identifier composition, that is, 1 to N sub-identifiers in every possible order.

These sub-identifier compositions include

$$\sum_{i=1}^N i! \cdot \binom{N}{i} \text{ pcs.}$$

5

The voice-control unit 2 defines probability to all the sub-identifier compositions, and the sub-identifier composition which is given the highest probability is the final result of the recognition.

- 10 For example in the case $n_1 = \text{Williams}$, $n_2 = \text{Matthew}$ and $n_3 = \text{Herbert}$, the possible sub-identifier compositions are:

15

Williams, Matthew, Herbert, Williams Matthew, Matthew Williams, Williams Herbert, Herbert Williams, Matthew Herbert, Herbert Matthew, Williams Matthew Herbert, Williams Herbert Matthew, Matthew Williams Herbert, Matthew Herbert Williams, Herbert Williams Matthew, and Herbert Matthew Williams

- 20 Thus, there are altogether 15 possible sub-identifier compositions when the number of the sub-identifiers is three. Sub-identifier combinations are thus full combinations of sub-identifiers (consisting all the sub-identifiers) or partial combinations of sub-identifiers (consisting only a part of the sub-identifiers). Also partial combinations having only one
- 25 sub-identifier are possible when adapting the voice control according to the invention.

The following Table 1 shows the number of sub-identifier combinations as the function of sub-identifiers.

30

Number of sub-identifiers	Number of sub-identifier combinations
1	1
2	4
3	15

As it can be seen in the Table 1, the number of sub-identifier combinations rises very quickly, it being as high as 64 when there number of the sub-identifiers is four. The quantity of the memory and the calculation time required for storing the model structure can be diminished by means of the implementation alternative according to the preferred embodiment of the invention. In this alternative, separate sub-identifiers are recognised, these being independent from each other, from the group of all the pronounced words (word spotting). In this method, it looks as if the voice-control unit 2 is constantly waiting for a certain sub-identifier and it recognizes whether it is pronounced or not. In this case, the voice-control unit 2 produces several possible alternative names and a probability rank for them. According to these alternatives, the telephone number meant by the user can be concluded.

In this method, it does not make a difference how many words not included in the word list (the group of all the stored sub-identifiers) are used, which makes this method highly flexible in use.

In the teaching phase, the voice-control unit 2 transforms the pronounced sub-identifiers to a form appropriate for storing and compares each pronounced sub-identifier to ready-stored sub-identifiers. In case the pronounced sub-identifier had already been stored; e.g. the user has already stored the name "Matthew Taylor", the voice-control unit 2 detects, when "Matthew" is being pronounced, that this had already been stored. In this case, the voice-control unit 2 forms a reference from the sub-identifier "Matthew" to the telephone number of Taylor and the telephone number of Williams. In this situation, in the recognition phase, after the sub-identifier "Matthew", the voice-control unit 2 has formed e.g. a list which includes both Matthew Taylor and Matthew Williams. Thus, the voice-control unit 2 knows to expect either Taylor or Williams, and after the user has pronounced the next sub-identifier, the voice-control unit 2 judges whether the identifier can be identified on basis of the given sub-identifiers or whether it should wait for a possible sub-identifier to come. This could be possible in such cases when the two sub-identifiers are identical and the third sub-identifier is different.

Although the above mentioned sub-identifiers comprise only the surnames and forenames of persons, the sub-identifiers can denote e.g. to the name of the company or group where the person in question is working, or possibly also to the department or filial name ("Matthew", "Williams", "Nokia", "Mobile Phones"). Further, the person may have several telephone numbers, even in different countries, wherein one used sub-identifier can be a country ("Matthew", "Williams", "Nokia", "Finland"). Also the home number can be distinguished by using e.g. a sub-identifier "Home".

10

The voice-control unit 2 according to the invention is preferably formed to constitute a part of the telecommunication terminal 1, wherein the functions of the voice-control unit are included advantageously in the functional software and apparatus of the telecommunication terminal 1.

15

Thus, the used controller unit 5, read-only memory 6 and random access memory 7 are the corresponding parts of the telecommunication terminal. In order to simplify this in Fig. 1, these parts are shown in a control block 16.

20

Another alternative to implement the telecommunication terminal 1 according to the invention is to form a part of the blocks in the voice-control unit 2 in connection with the telecommunication terminal 1 and in a manner that a part of the blocks is e.g. a separate device.

25

Most mobile stations include an access gate for the possibility of connecting external auxiliary devices, wherein the voice-control unit 2 can be implemented as a separate auxiliary device connected to the access gate. Thus, the dialling signals of the control and telephone number can be transmitted via the connectors of the access gate, which is known

30

technology as such.

35

Yet another alternative to implement the voice-control unit is to form a voice-control service in a telecommunication network, such as mobile communication network, in which voice-control service the functions of the voice-control unit are situated. Thus, the voice recognition is selected e.g. through the menu functions of the mobile station, wherein a voice connection is formed from the mobile station to the voice-control service. Subsequently, the recognition is advantageously per-

formed, as described above. After the identifier has been identified, the voice-control service is capable of creating a connection to the telephone number corresponding to the identifier.

- 5 The invention is not restricted solely to the examples presented above but it can be modified within the scope of the accompanying claims.

Claims:

1. A method for selecting a telephone number by means of voice control, in which method the telephone numbers which can be selected are stored, and an identifier is stored for each telephone number which can be selected, **characterized** in that in the storing phase the identifier is pronounced and divided into at least one sub-identifier, which is stored and to which information of the telephone number is linked, wherein the method comprises selecting the telephone number in response to a voice command comprising the sub-identifier.
2. A method for selecting a telephone number by means of voice control, in which method the telephone numbers which can be selected are stored, and an identifier is stored for each telephone number which can be selected, **characterized** in that in the storing phase the identifier is pronounced and divided into several sub-identifiers, which are stored and to which information of the telephone number is linked, wherein the method comprises selecting the telephone number in response to a voice command comprising a combination of several sub-identifiers.
3. A method as set forth in claims 1 or 2, **characterized** in that the identifier is a name of a person, wherein the used sub-identifiers are preferably the surname of the person and one or several forenames of the person.
4. A voice controlled device (2) comprising:

 - means (7) for storing the telephone numbers to be selected,
 - means (4) for storing at least one identifier for each telephone number to be selected,
 - means (10a, 10b) for receiving an identifier given in a voice form,
 - means (3) for interpreting the received voice-commands,
 - means (16) for selecting a telephone number in response to a voice command,

characterized in that the identifier comprises at least one sub-identifier, and the voice controlled device (2) comprises means (4) for storing the sub-identifier, and means (3, 4, 5, 6, 7, 10a, 10b) for selecting a telephone number in response to a voice command
5 comprising the sub-identifier.

5. A voice controlled device (2) comprising:

- 10 – means (7) for storing the telephone numbers to be selected,
- means (4) for storing at least one identifier for each telephone number to be selected,
- means (10a, 10b) for receiving an identifier given in a voice form,
- means (3) for interpreting the received voice-commands,
- 15 – means (16) for selecting a telephone number in response to a voice command,

characterized in that the identifier comprises several sub-identifiers, and the voice controlled device comprises means (4) for storing the sub-identifiers, and means (3, 4, 5, 6, 7, 10a, 10b) for selecting a telephone number in response to a voice command comprising a combination of several sub-identifiers.
20

6. A voice controlled device (2) as set forth in claims 4 or 5,
25 **characterized** in that an identifier is arranged to be divided into sub-identifiers in the voice controlled device (2) automatically, preferably on the basis of pauses kept between the sub-identifiers when pronouncing the sub-identifiers.

30 7. A voice controlled device (2) as set forth in claims 4 or 5, comprising means for giving commands to the voice controlled device (2), **characterized** in that an identifier is arranged to be divided into sub-identifiers by using means for giving commands to the voice controlled device (2).

35 8. A voice controlled device (2) as set forth in any of claims 4 to 7, **characterized** in that the voice controlled device (2) is formed to constitute a part of the telecommunication terminal (1).

9. A voice controlled device (2) as set forth in any of claims 4 to 7, **characterized** in that the voice controlled device (2) is formed to constitute a separate device.

5

10. A voice controlled device (2) as set forth in any of claims 4 to 7 or 9, **characterized** in that the voice controlled device (2) is arranged to be used in connection with the telecommunication terminal (1).

10 11. A voice controlled device (2) as set forth in any of claims 4 to 7, intended to be used in call formation in a telecommunication network, such as mobile communication network, **characterized** in that the voice controlled device (2) is located in the telecommunication network.

15 12. A voice controlled device (2) as set forth in any of the claims 4 to 11, **characterized** in that the telecommunication terminal (1) is a mobile station, such as a GSM mobile-station.

(57) Abstract:

In a method for selecting a telephone number by means of voice control, the telephone numbers which can be selected are stored, and for each telephone number which can be selected at least one identifier, such as a name is stored. In the storing phase, the identifier is pronounced and divided into one or several sub-identifiers, which are stored, and to which information on the said telephone number is linked, wherein the telephone number mentioned in the selecting phase can be dialled either by pronouncing said sub-identifiers in any order according to a combination or partial combination of the sub-identifiers.

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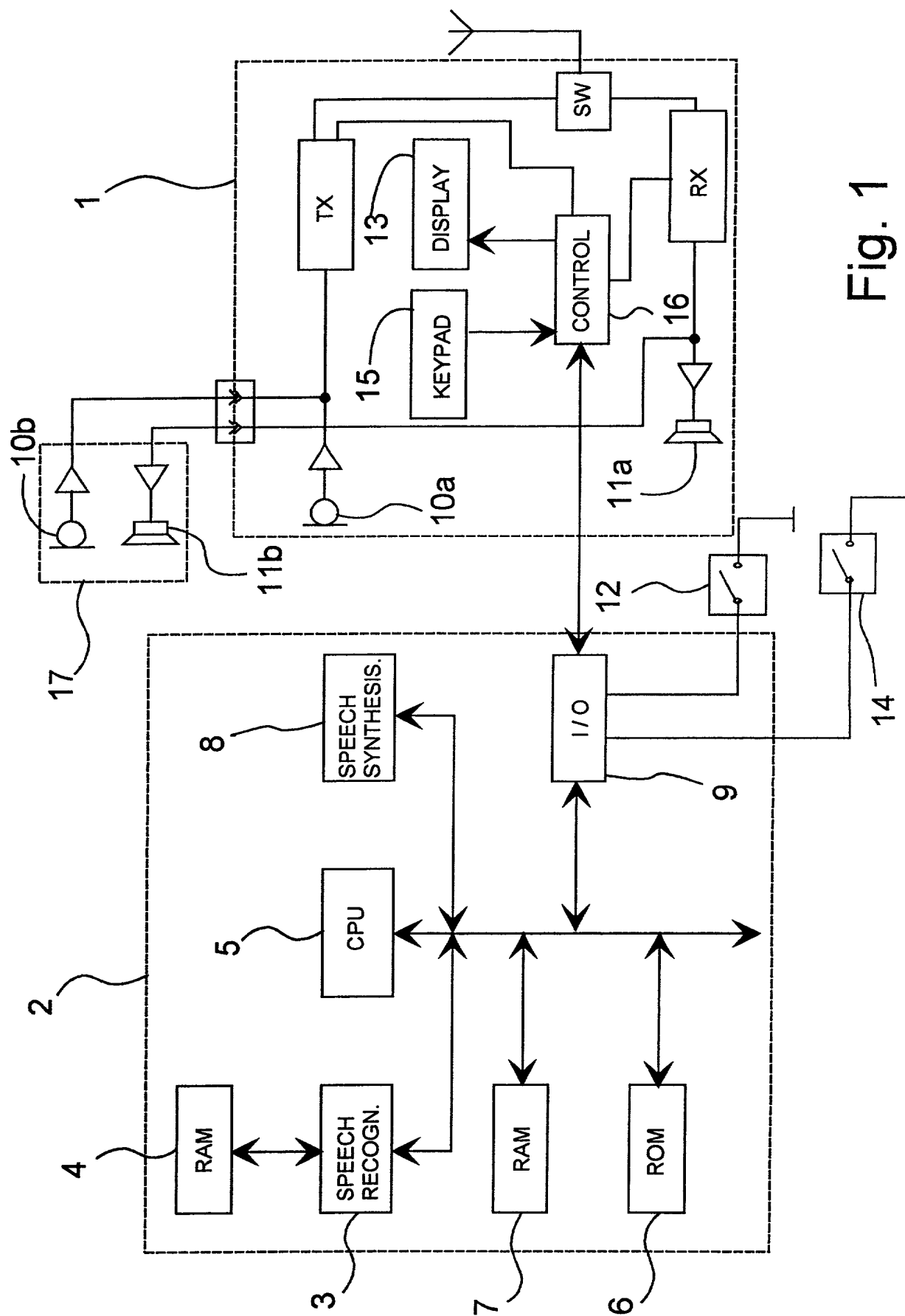
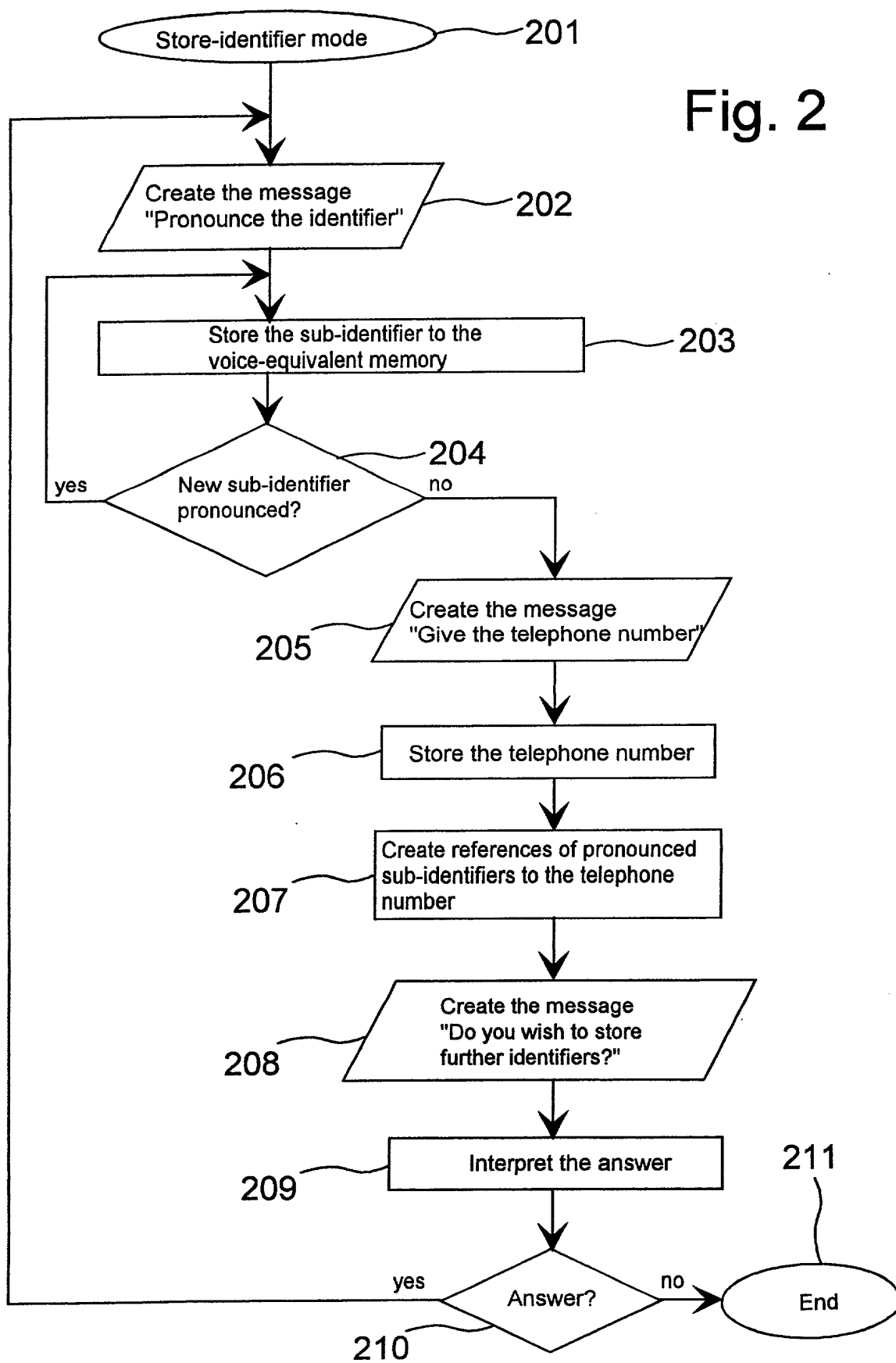


Fig. 2



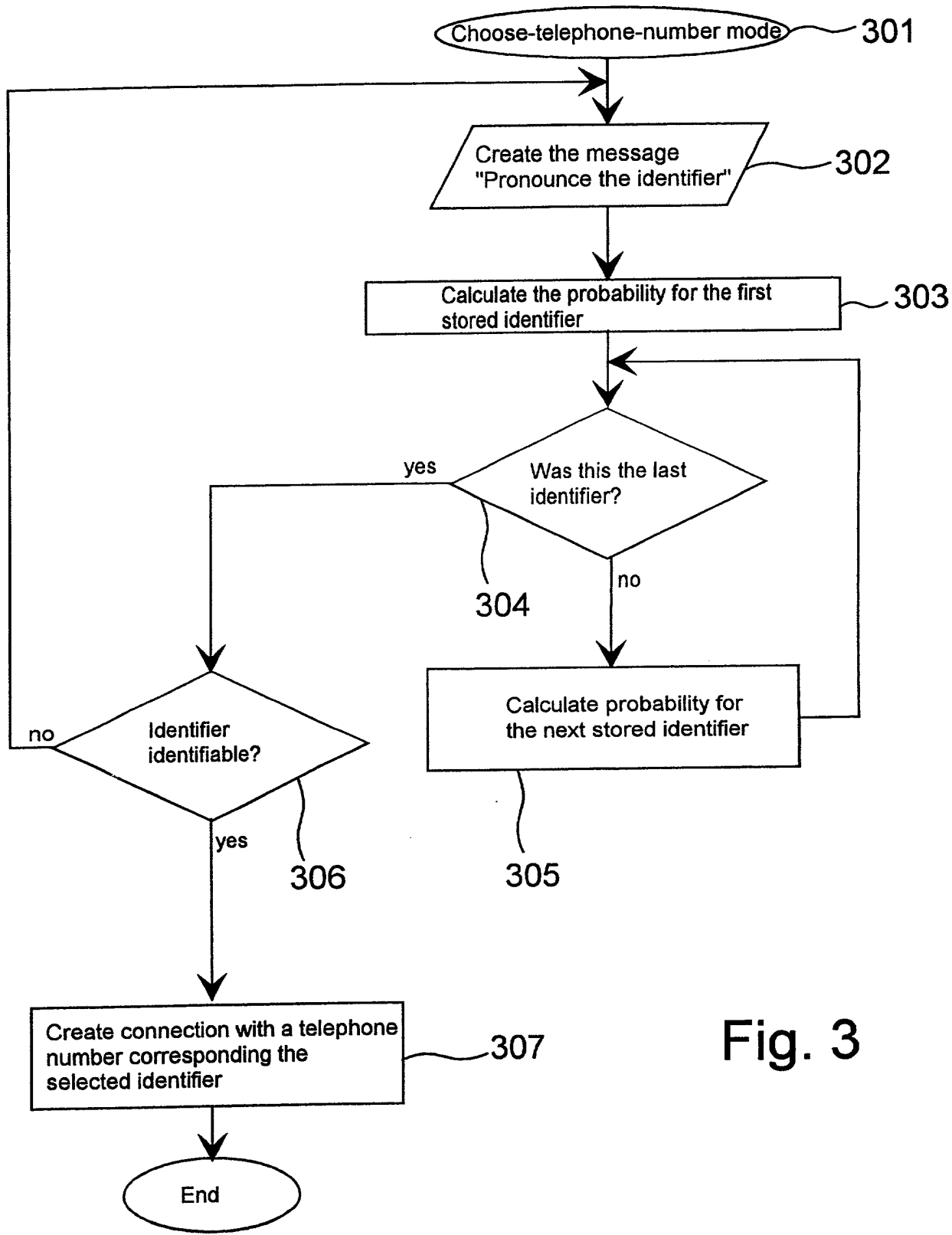


Fig. 3